

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 16 Aug 2022

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

Daunorubicin hydrochloride

### 1.1. Catalog No.:

684930

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical  
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH  
Am Wieseneck 7

04451 Cunnersdorf  
Deutschland

Tel. +49 34291 3372-36  
Fax. +49 34291 3372-39  
contact@hpc-standards.com

### 1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36  
This number is only available during office hours.

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Acute toxicity, Oral (Category 3), H301  
Respiratory sensitisation (Category 1), H334  
Carcinogenicity (Category 2), H351

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

2.2 Label elements  
Labelling according Regulation (EC) No 1272/2008  
Pictogram Signal word Danger  
Hazard statement(s)

H301 Toxic if swallowed.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H351 Suspected of causing Cancer Precautionary statement(s)  
P261 Avoid breathing dust.  
P281 Use personal protective equipment as required.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
Supplemental Hazard  
Statements  
none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Daunomycinhydrochloride

Formula : C<sub>27</sub>H<sub>29</sub>NO<sub>10</sub> · HCl

Molecular weight : 563.98 g/mol

CAS-No. : 23541-50-6

EC-No. : 245-723-4

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component Classification Concentration

Daunorubicin hydrochloride

CAS-No.

EC-No.

23541-50-6

245-723-4

Acute Tox. 3; Resp. Sens. 1;

Carc. 2; H301, H334, H351

<= 100 %

#### 3.1.1. Formula

C<sub>27</sub>H<sub>30</sub>ClNO<sub>10</sub>

#### 3.1.2. Molecular Weight (g/mol)

563.98

### 3.1.3. CAS-No.

23541-50-6

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

#### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Recommended storage temperature 2 - 8 °C

Hygroscopic. Store under inert gas.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters

### 8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as

a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: solid

b) Odour No data available

c) Odour Threshold No data available

d) pH No data available

e) Melting point/freezing point

No data available

f) Initial boiling point and boiling range

No data available

g) Flash point No data available

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower flammability or

explosive limits  
No data available  
k) Vapour pressure No data available  
l) Vapour density No data available  
m) Relative density No data available  
n) Water solubility No data available o) Partition coefficient: noctanol/  
water  
No data available  
p) Auto-ignition  
temperature  
No data available  
q) Decomposition  
temperature  
No data available  
r) Viscosity No data available  
s) Explosive properties No data available  
t) Oxidizing properties No data available  
9.2 Other safety information  
No data available

## 10. STABILITY AND REACTIVITY

10.1 Reactivity  
No data available  
10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
No data available  
10.4 Conditions to avoid  
No data available  
10.5 Incompatible materials  
Strong oxidizing agents  
10.6 Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx),  
Hydrogen chloride gas  
Other decomposition products - No data available  
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects  
Acute toxicity  
LD50 Oral - Rat - 290 mg/kg(Daunorubicin hydrochloride)  
Skin corrosion/irritation  
No data available(Daunorubicin hydrochloride)  
Serious eye damage/eye irritation  
No data available(Daunorubicin hydrochloride)  
Respiratory or skin sensitisation  
Germ cell mutagenicity  
Laboratory experiments have shown mutagenic effects.(Daunorubicin hydrochloride)  
Carcinogenicity  
This product is or contains a component that has been reported to be possi classification.(Daunorubicin  
hydrochloride)  
Limited evidence of carcinogenicity in animal studies(Daunorubicin hydrochloride)  
(Daunorubicin hydrochloride)  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or  
confirmed human carcinogen by IARC.  
Reproductive toxicity  
No data available(Daunorubicin hydrochloride)  
Specific target organ toxicity - single exposure

No data available(Daunorubicin hydrochloride)  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available(Daunorubicin hydrochloride)  
Additional Information  
RTECS: HB7878000  
Central nervous system depression, Gastrointestinal disturbance(Daunorubicin hydrochloride)

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
No data available  
12.2 Persistence and degradability  
No data available  
12.3 Bioaccumulative potential  
No data available  
12.4 Mobility in soil  
No data available(Daunorubicin hydrochloride)  
12.5 Results of PBT and vPvB assessment  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
12.6 Other adverse effects  
No data available

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Product  
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.  
Contaminated packaging  
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 2811 IMDG: 2811 IATA: 2811  
14.2 UN proper shipping name  
ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (Daunorubicin hydrochloride)  
IMDG: TOXIC SOLID, ORGANIC, N.O.S. (Daunorubicin hydrochloride)  
IATA: Toxic solid, organic, n.o.s. (Daunorubicin hydrochloride)  
14.3 Transport hazard class(es)  
ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1  
14.4 Packaging group  
ADR/RID: III IMDG: III IATA: III  
14.5 Environmental hazards  
ADR/RID: no IMDG Marine pollutant: no IATA: no  
14.6 Special precautions for user  
No data available

**15. REGULATORY INFORMATION**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

**16. OTHER INFORMATION**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!